



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

BUREAU OF ENGINEERING
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JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

TO: Will Reid, Assistant Chief Engineer of Operations

FROM: Brad Freeze, Director of Traffic Operations

SUBJECT: **Proprietary Item Request and Justification**
City of Elizabethton

- 1) Traffic Signal Controllers and Malfunction Management Units (MMU)**
- 2) Traffic Signal Radar Detection Equipment**
- 3) Traffic Signal Emergency Vehicle Preemption Equipment**
- 4) Traffic Signal Fiber Optic Digital Modem Communications Equipment**

- 1) **Traffic Signal Controllers and Malfunction Management Units (MMU):** The City of Elizabethton is requesting that Econolite Colbalt C-Series controllers and the EDI-Smart Monitor Malfunction Management Units (MMU) be used in all signalization projects within the City over the next three years where Federal funding is used. The City of Elizabethton currently maintains 23 signalized intersections within the City's jurisdiction and has procured six Econolite Colbalt C-Series controllers and six EDI-Smart MMUs this year and have committed to replace the remaining equipment over the next three fiscal years. Both of these requests are necessary to maintain synchronization with the existing traffic signal systems.
- 2) **Traffic Signal Radar Detection Equipment:** The City of Elizabethton is requesting that Wavetronix Smartsensor traffic signal radar detection equipment be used in all signalization projects within the City over the next three years where Federal funding is used. The radar detection equipment includes both SmartSensor Matrix for stop bar detection and the SmartSensor Advance for advanced approach detection. The City of Elizabethton currently maintains Wavetronix radar detection at two signalized intersections within the City's jurisdiction and has procured this equipment at a third signalized intersection this year. The City has begun utilizing the Wavetronix radar detection units to replace other technologies due to their unreliability. Reliable detection is a key component in the City's efforts to provide a more efficient traffic system within the Elizabethton Area. This request is necessary to maintain synchronization with the existing traffic signal systems.
- 3) **Traffic Signal Emergency Vehicle Preemption Equipment:** The City of Elizabethton is requesting that Opticom Infrared System emergency vehicle preemption equipment be used in all signalization projects within the City over the next three years where Federal funding is used. The City of Elizabethton currently maintains Opticom Infrared System emergency vehicle preemption equipment at all 23 signalized intersections within the City's jurisdiction. This request is necessary to maintain synchronization with the existing traffic signal systems.

- 4) **Traffic Signal Fiber Optic Digital Modem Communications Equipment:** The City of Elizabethton is requesting that FDM2 Series traffic signal fiber optic digital modem communications equipment be used in all signalization projects within the City over the next three years where Federal funding is used. The City of Elizabethton currently maintains FDM2 Series traffic signal fiber optic digital modem communications equipment at 14 signalized intersections within the City's jurisdiction. All of these 14 intersections are those that required interconnection. As the City expands its interconnected systems, we will need to have reliable communications to maintain the coordination along these critical corridors. This will require that the radio communication is of the same type.

In addition to the above, the City of Elizabethton staff has been extensively trained to install, operate, maintain, program, and troubleshoot the requested equipment. This allows their technicians to quickly diagnose problems with field units which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to insure maximum capacity of the synchronized system. By utilizing and standardizing this equipment, there will be a cost savings in stocking replacement equipment which will result in faster and less costly repair.

I, Brad Freeze, Director of the Traffic Operations Division of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of 23 CFR 635.411(a) (2) that the patented or proprietary items listed above are essential for the synchronization of existing facilities.



Assistant Chief Engineer of Operations

11/6/17
Date



CITY OF ELIZABETHTON

**136 S. SYCAMORE ST.
ELIZABETHTON, TN 37643-3328
Phone: 423-547-6200**

**Michael Potter
Engineering Coordinator/Transportation Planning
423-547-6238 Fax: 423-547-6350**

May 23, 2017

Mr. Steve Bryan, P.E., P.T.O.E.
TDOT – Traffic Operations Division
Traffic Engineer/Section Manager – Signal Division
James K. Polk Building, 12th Floor
505 Deaderick Street
Nashville, TN 37243

RE: Request for Proprietary Traffic Signal Product Certification for the City of Elizabethton

Dear Mr. Bryan:

The City of Elizabethton would like to request a proprietary product certification for the items listed below for traffic signal equipment to be specified in TDOT projects using federal or state funding occurring at locations controlled and maintained by the City of Elizabethton for the next three (3) years. Currently, the City of Elizabethton maintains traffic signals at twenty-three (23) intersections with a majority of the signals located within the state route system. Use of the proprietary items would allow the City to maintain its signals in a more effective and efficient manner and reduce potential down time due to a malfunction while allowing the city to meet limited budgetary requirements currently experienced.

Requested Proprietary Items

- Wavetronix Smartsensor Matrix Radar (Vehicle Detection)
 - Current Installations – Two (2) intersections (100% of alternative detection locations)
 - Planned Installations – One (1) location currently under construction and one (1) location budgeted for in FY 2018.
 - Reason for proprietary request – With limited funding, the City of Elizabethton has managed to build up an inventory of spare equipment and parts of this brand of detection that will allow for timely repair/replacement of current and future installations.
 - Product Specifications – The specification provided by the City of Elizabethton can be found at the link provided below.
http://www.elizabethton.org/departments/utilities/engineering/vehicle_detection.php

- Opticom Infrared System (Emergency Pre Emption)
 - Current Installations – Twenty-three (23) intersections (100% of pre emption locations)
 - Planned Installations – None. All intersections currently maintained by the City of Elizabethton are currently equipped with this device.
 - Reason for proprietary request
 - Both city staff and third party maintaining agency have over eighteen (18) years of experience with this specific product.
 - With limited funding, the City of Elizabethton has managed to build up an inventory of spare equipment and parts of the brand selected that will allow for timely repair/replacement of current and future installations.
 - Product Specifications – The specification provided by the City of Elizabethton can be found at the link provided below.
http://www.elizabethton.org/departments/utilities/engineering/emergency_preemption.php

- Econolite Cobalt C-Series (Controller)
 - Current Installations – No current installations. All controllers currently installed are Peek models no longer manufactured or serviced by Peek.
 - Planned Installations
 - The City of Elizabethton has committed to replacing all existing controllers with this product.
 - Currently, six (6) controllers have been procured and will be installed this calendar year.
 - The City of Elizabethton has committed to purchasing and installing twenty-one (21) controllers over the next three (3) fiscal years (seven (7) controllers per year) to complete the replacement process and maintain an inventory of spare controllers for maintenance purposes.
 - Reason for proprietary request – See Planned Installations.
 - Product Specifications – The specification provided by the City of Elizabethton can be found at the link provided below.
<http://www.elizabethton.org/departments/utilities/engineering/controllers.php>

- EDI-SmartMonitor (Malfunction Management Unit (MMU))
 - Current Installations – No current installations.
 - Planned Installations
 - The City of Elizabethton has committed to replacing all existing MMU's with this product in conjunction with the replacement of the controllers as discussed previously.
 - Currently, six (6) MMU's have been procured and will be installed this calendar year.
 - The City of Elizabethton has committed to purchasing and installing twenty-one (21) MMU's over the next three (3) fiscal years (seven (7) MMU's per year) to complete the replacement process and maintain an inventory of spare MMU's for maintenance purposes.
 - Reason for proprietary request – See Planned Installations.
 - Product Specifications – The specification provided by the City of Elizabethton can be found at the link provided below.
<http://www.elizabethton.org/departments/utilities/engineering/controllers.php>

- FDM2 Series Fiber Optic Digital Modem (Communications)
 - Current Installations – Fourteen (14) intersections (100% of interconnected locations)
 - Planned Installations – Currently, there are no anticipated projects requiring interconnection.
 - Reason for proprietary request – With limited funding, the City of Elizabethton has managed to build up an inventory of spare equipment and parts of the brand selected that will allow for timely repair/replacement of current and future installations.
 - Product Specifications – The specification provided by the City of Elizabethton can be found at the link provided below.
<http://www.elizabethton.org/departments/utilities/engineering/communications.php>

Thank you for your consideration of this request. If you have any questions or comments, please feel free to contact me.

Sincerely,



Michael Potter
Engineering Coordinator/Transportation Planning

Cc: Johann Coetzee, Director of Engineering (City of Elizabethton)
Matthew Balogh, Engineering Tech (City of Elizabethton)
Glenn Berry, Planning Coordinator (Johnson City MTPO)